

by calcining an intimate mixture of oxygen-containing transition metal compounds and an oxygen-containing lithium compound, which has been obtained by treating a solid powdered transition metal compound with a solution of the lithium compound and drying, wherein at least the M^1 compound is used in the form of a powder with a specific surface area of at least $10 \text{ m}^2/\text{g}$ (BET) and calcination is performed in a moving bed.

2. (Amended) A process according to Claim 1, wherein the transition metallate is milled and sieved after calcination and the finer fraction from sieving is recycled to the moving bed.
3. (Amended) A process according to Claim 1 wherein a mixed transition metal compound which contains at least some of the M^2 compound is used in a solution of the lithium compound for impregnating the M^1 compound.
4. (Amended) A process according to Claim 1 wherein the solution of lithium compound contains at least some of the M^2 compound.
5. (Amended) A process according to Claim 1 wherein calcination is performed in a rotary kiln, in a fluidised bed or in a fall-shaft reactor (downer).
6. (Amended) A process according to Claim 1 wherein following calcination, milling is performed and, after milling, further calcination is performed in an oxygen-containing atmosphere.
7. (Amended) A process according to Claim 1 wherein LiNO_3 is used as the lithium compound and $\text{Ni}(\text{OH})_2$ is used as the M^1 transition metal compound.
8. (Amended) A process according to Claim 7, wherein NO_2 released during calcination is recovered as nitric acid and is reacted with LiOH to give LiNO_3 which is used as the lithium compound.

9. (Amended) A process according to Claim 1 wherein the transition metal compound treated with the solution of a lithium compound is dried by spray drying or mixer granulation.
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